

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. Data transmission network having

at least one line termination device connected via a ~~data transmission medium~~ telephone line wired within a building to several network termination devices, wherein each network termination device is connected to a corresponding data communication device to form a local area network (LAN) comprising:

a request message generator for generating a data transmission request message when [[a]] the data communication device connected to the network termination device is sending data, wherein a data transmission request message comprises a request for data transmission of the data sent by the data transmission device, and

an xDSL transceiver for transmitting an upstream data frame including the generated request message via the ~~data transmission medium~~ telephone line to the line termination device,

~~said the~~ the line termination device comprising:

a selection unit for selecting network termination devices which have sent a data transmission request message depending on stored status information data of the network termination devices stored in storing devices of the line termination devices, wherein the status information includes addresses of the network termination devices and corresponding numbers of the required time slots received from the network termination devices in data transmission

request messages,

a grant message generator for generating data transmission grant messages for the selected network termination devices, wherein each data transmission grant message comprises a grant message opcode and an address of the selected network termination device, and

an xDSL transceiver for broadcasting downstream data frames including the generated grant messages via the ~~data transmission medium~~ telephone line to the network termination devices.

2-4. (Canceled)

5. (Currently Amended) Data transmission network according to claim 1, wherein the upstream data frames are sent from the network termination device[[s]] to the line termination device via the ~~data transmission medium~~ telephone line in an upstream frequency band, and

the downstream data frames are sent from the line termination device to the network termination device via the ~~data transmission medium~~ telephone line in a downstream frequency band.

6. (Currently Amended) Data transmission network according to claim [[1]] **2**, wherein

the downstream frequency band ranges between 1 and 3 MHz and

the upstream frequency band ranges between 4 and 8 MHz.

7. (Previously Presented) Data transmission network according to claim 1, wherein each line termination device comprises an MII interface for the connection to a switch.

8. (Previously Presented) Data transmission network according to claim 1, wherein each data frame comprises:

- a synchronization data field,
- a message data field,
- a payload data field, and
- an error correction data field.

9. (Previously Presented) Data transmission network according to claim 1, wherein each network termination device is connected to a passive signal splitter.

10. (Previously Presented) Data transmission network according to claim 9, wherein the passive signal splitter comprises

- a low-pass filter for filtering a telephone signal, and
- a high-pass filter for filtering an xDSL data signal.

11-12. (Canceled)

13. (Previously Presented) Data transmission network according to claim 1, wherein the selection unit

- reads the status information data stored in the storing means,
- selects the network termination devices for data transmission according to a programmed selection algorithm, and
- activates the grant message generator for generating grant messages for the selected network termination devices.

14. (Previously Presented) Data transmission network according to claim 1, wherein

the xDSL transceiver of the line termination device includes an adaptive automatic gain control circuit and an equalizer.

15. (Currently Amended) Data transmission network according to claim 1, wherein the line termination device comprises

a first storing means for storing [[the]] AGC coefficients for the network termination devices connected to the line termination device, and

a second storing means for storing equalizer coefficients for the network termination devices connected to the line termination device.

16. (Currently Amended) Data transmission network according to claim [[1]] 15, wherein the AGC coefficients of the selected network termination device selected by the selecting unit are loaded into the AGC circuit of the xDSL transceiver of the line termination device.

17. (Previously Presented) Data transmission network according to claim 15, wherein the equalizer coefficients of the selected network termination device selected by the selecting unit are loaded into the equalizer of the xDSL transceiver of the line termination device.

18. (Previously Presented) Data transmission network according to claim 1, wherein the network termination device comprises a grant decoder for decoding messages within downstream data frames broadcasted by the line termination device.

19. (Previously Presented) Data transmission network according to claim 1, wherein the xDSL transceivers are VDSL transceivers.

20. (Previously Presented) Data transmission network according to claim 1, wherein the impedances of the network termination devices connected to the data transmission medium are balanced.

21. (Previously Presented) Data transmission network according to claim 1, wherein eight network termination devices are connected via the data transmission medium to the line termination device.

22. (Previously Presented) Data transmission network according to claim 1, wherein several line termination devices are connected to a switch.

23. (Previously Presented) Data transmission network according to claim 22, wherein the switch is connected to an IP backbone.

24. (Currently Amended) Method for data transmission comprising:
generating a data transmission request message by a network termination device when the network termination device receives data from a connected data communication device, wherein a data transmission request message comprises a request message opcode and a number of time slots required for data transmission of the data sent by the data communication device;

transmitting the generated data transmission request message within an upstream data frame via a ~~data transmission medium~~ telephone line wired within a building to a line termination device;

selecting the network termination devices depending on stored status information data of the network termination devices, wherein the status data includes addresses of the network termination devices and corresponding numbers of the required time slots received from the

network termination device in data transmission request messages;

generating data transmission grant messages for the selected network termination devices by the line termination device, wherein each data transmission grant message comprises a grant message opcode and an address of the selected network termination device;

broadcasting downstream data frames containing the generated grant messages via the ~~data transmission medium~~ telephone line to the connected network termination devices; and

transmitting data from the selected network termination device after the grant message has been decoded.

25. (Currently Amended) Line termination device comprising

a selection unit for selecting a network termination device from a group of network termination devices connected to the line termination device in response to a request message depending on stored status information data of the network termination devices, wherein the status information data includes addresses of the network termination device and corresponding numbers of the required time slots to receive from the network termination devices in data transmission request messages;

a grant message generator for generating data transmission grant messages for the selected network termination device, wherein each data transmission grant message comprises a grant message opcode and an address of the selected network termination device, and

an xDSL transceiver for broadcasting downstream data frames including the generated grant messages via a ~~data transmission medium~~ a telephone line wired within a building to the network termination devices.

26. (Currently Amended) Network termination device comprising

a request message generator for generating a data transmission request message when a data communication device connected to the network termination device is sending data, wherein each data transmission request message comprises a request message opcode and a number of time slots required for data transmission of the data sent by the data communication device, and

an xDSL transceiver for transmitting an upstream data frame including the generated request message via ~~the data transmission medium~~ a telephone line wired within a building to a connected line termination device.